

New Lamprey Controls

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Intro: This is Superior Science News. Today's issue explores methods used to control sea lamprey populations in Lake Superior.

NAT SOUND: waves

The invasion of sea lamprey into the Great Lakes had a significant impact on Lake Superior's native lake trout. Lamprey nearly eliminated lake trout populations in Lake Superior by the 1970s, which led various state agencies to make comprehensive programs to restore the fish. Efforts remain underway to keep the invaders from threatening lake trout. North Shore commercial fisherman Stephen Dahl says that lamprey control methods seem to be working in Lake Superior.

"My understanding is that the lake trout would never have been rehabilitated without the lamprey controls. You know, and I know there's been a little bit of concern there's been an increase in the last couple years with lamprey scarring. I haven't seen it."

Charter Captain Dexter Nelson of Superior agrees.

"I think we're seeing less scarring now. The last two years now we've caught actually lake trout in the low 30-pound range, and like the one we had this last season only had two scars on it. They were old scars."

Assistant Supervisor Ted Halpern for Lake Superior Area Fisheries of the Minnesota Department of Natural Resources says the decrease in scarring is directly related to chemical treatments of tributaries, rivers, and the lake.

"Those three main things: lamprey controls, restricting the take of lake trout to protect the population and then stocking--has resulted in what we call successful restoration of Lake Superior now."

Captain Nelson says those things along with other methods like sterilizing lamprey to prevent reproduction and setting lamprey traps have also contributed to increasing lake trout numbers.

"That seems to be working too, but I think if you talk to all the fisherman they would just as soon see the chemical treatment every 4 to 5 years too. It doesn't seem to be hurting the other fish that are in the streams if they do it at the right time of year."

But, chemistry professor Tom Hoye with the University of Minnesota says things aren't always as they seem. He says chemical treatments like trifluoromethyl-nitro phenol or TFM and other lampricides can negatively impact the environment.

"The larvacides are toxic selectively and highly selectively to the larvae. But, not with 100% selectivity. So, there are other organisms that are affected by the lampricide treatments."

Professor Hoye is one of the researchers investigating a new way to control lamprey populations by using the lamprey's own pheromones as bait.

"They smell it. They like it. They go to it. Now, how you use that--there are a lot of different nuances and ways you can imagine finally implementing that. Given that they have traps and barriers, how can we use this. We can all speculate some of that, and then it requires good science to try to investigate and explore which of those might be valid ways."

He adds the use of lamprey pheromones is a natural control method that could have economic advantages if proven to aid in controlling their numbers.

"The cost of applying TFM--that's an expensive treatment. The TFM has to be used in much more massive quantities. Yes, to be able to--as an alternative...It will probably will never completely displace the use of TFM. But, to the extent that it could be partially successful, certainly it could reduce the amount of TFM."

Minnesota DNR's Ted Halpern agrees that no control methods should be abandoned.

"Right now, we have to use all of them and keep funding the research on pheromones because that does hold promise."

Professor Hoye says funding for lamprey research is a concern right now.

"We're limping along. This is expensive research, and there's not a lot of money in any agency. So, resources are in very short supply. Because of the technical challenges, it's pretty expensive work to do. Here's a case where more dollars have a chance of making a very real difference."

In the meantime, Charter Captain Dexter Nelson says they'll just have to make do.

"We need to just keep doing what we're doing and treating the rivers and treating the estuaries as much as we can. We're never going to cure the problem. But, we're going to have to go with the status quo thing, I think, and do what we can as much as we can."

For Superior Science News, I'm Marie Zhuikov.

Outcue: This is a production of the Minnesota Sea Grant Program at UMD and KUWS Radio.